

第 5 分 野

水 産 業

水産業分野総括

野呂忠秀

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鹿児島大学水産学部の研究者3名は、与論島の水産業の現状と海洋環境に関する調査と研究を行った。

まず漁業基礎工学講座の江幡恵吾氏は、平成10年から14年度にかけての水揚げ統計を調査し、毎年の水揚げ数量と水揚げ金額が344～540トン、2.3～2.8億円で変動していることを明らかにした。この漁獲量のうち、与論島内で消費されるものは10%に過ぎず、残りの50%は鹿児島市魚市場に、他の30%は沖縄本島に出荷されていた。平成14年の与論島での漁業者数（漁業協同組合員数）は307名であったが、そのうち漁協正組合員は79名で、水揚げ金額の50%はソデイカ旗流し網漁業によるものであった。

附属海洋資源環境教育センター（海洋センター）の山中有一氏は与論島におけるスポーツダイビングの現状を報告した。茶花港外の海底には、海上保安庁の巡視船が沈んでおりダイビングスポットとして利用されているが、漁業者も観光業者と協力してエコツーリズムの振興に取り組んでおり、島内のダイバーが鹿児島大学の研究者と協力してサンゴのモニタリングを行い、サンゴの白化現象を報告している。さらに山中氏は、赤土の流出や漂着ゴミの増加に対しても警告を与えている。

また、同海洋センターの野呂忠秀と生駒朋美氏は、与論島沿岸における海藻の分布と水質環境の現状について報告した。それによれば、アオサ、アオノリ、ヒトエグサのような緑藻が潮間帯に多く、ヒトエグサは食用に採取されていた。このような緑藻の繁茂は当該海域に農業由来のリンや窒素が流入していることを示唆するものであった。また、かつては繁茂していたというホンダワラ属の藻場は消失していたが、その原因は藻食性動物による食害ではないかと考えられた。

かつて、与論島は水産業の島であったが、もはや島内の主要な産業ではなくなっている。自然環境と調和した水産業の振興策が今後求められよう。

Fisheries and Marine Field : Summary

NORO Tadahide

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Three scientists from the Faculty of Fisheries, Kagoshima University conducted preliminary studies on the current status of fisheries and marine environment of Yoron Island, Kagoshima, Japan.

Dr. Keigo EBARA reported that from 1998-2002 the volume of yearly fishery catches was from 344 to 540 tons valued at 230,000,000 to 280,000,000 Japanese yen. Of the total fisheries landed, more than 50% were sold in Kagoshima City fish market, another 10% at Okinawa Is. and only about 10% were left in Yoron Is. There were 307 fishermen in the island, however, only 50 of them were full-time fishermen and the rest were just doing fishing on the side. Cuttlefish, which was caught by pole and line method, was the most important fishery product both in production and in wholesale value.

Dr. Yuichi YAMANAKA pointed out in his report that sports diving or marine ecotourism would be another business opportunity for fishermen. An old coast guard patrol vessel sunken off Yoron Is. had become the diving spot for fun divers. Recently, the sunken ship had attracted many divers because of the variety of faunal growths and unpolluted clear sea. Sports diving could be another livelihood option for the island which is surrounded by subtropical coral reefs. Some divers in collaboration with scientists from Kagoshima University are monitoring the status of corals in Yoron Is. Coral bleaching or the whitening of corals, which was caused by the dying of zooxanthellae or dinoflagellates from coral tissues, was reported in the island. In addition, the presence of drifting rubbish, plastic bottles and muddy silt from land may deteriorate the environment of the island.

Dr. Tadahide NORO and his student Ms. Tomomi IKOMA studied the seaweed resources and analyzed the nutrients in seawater. The massive growth of green algae such as *Ulva*, *Monostroma* and *Enteromorpha* on rocks near the shoreline suggested that the coastal waters was rich in nutrients coming from agricultural fertilizer, compost or animal manure. Nitrite nitrogen and organic phosphate level in seawater were 0.01mg N/L and 0.3-0.4 mg P/L, respectively. On the other hand, the brown algae *Sargassum*, which were previously dominant in the reef, had recently disappeared. The local fishermen were wondering why the reefs had become devoid of such seaweed. Probably, the number of herbivorous fish and sea urchins might have increased and prevented the growth of the said seaweed.

Since ancient time, fishing had been popular in Yoron Is. but it was not an important industry. For

sustainable development of the fishery industry in the island, strategies for the industry including environmental management and harmonious cooperation with agriculture will be considered in future studies.